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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,358	04/06/2005	Takenobu Sunagawa	Q86665	7769

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EXAMINER

BERNSHTEYN, MICHAEL

ART UNIT	PAPER NUMBER
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1713

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/530,358	Applicant(s) SUNAGAWA ET AL.	
	Examiner Michael Bernshteyn	Art Unit 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2006.
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-7 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 2-7 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/28/2006</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action follows a response filed on December 28, 2006. Claim 2 has been amended; claims 6 and 7 have been added; no claims have been cancelled.
2. Applicant's arguments with respect to claims 2-5 have been considered but are moot in view of the new ground(s) of rejection.
3. Claims 2-7 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

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under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 2-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueno et al (U. S. Patent Application Publication 2002/0022695) in vie of Ding et al. (CN 1123302 A).

Ueno discloses a **polymerizable unsaturated polyester resin composition**, wherein a polyester skeleton derived from collected PET is introduced, for effective utilization of waste PET such as a PET bottle, which has recently been considered a large obstacle to environmental protection. The polymerizable unsaturated polyester resin composition comprises a straight-chain polyester (A) having a (meth)acryloyl group at both ends of molecules and an ethylenically unsaturated monomer (B), said straight-chain polyester (A) having a (meth)acryloyl group at both ends of molecules being obtained by reacting: (a) a terephthalate oligomer having a hydroxyl group at both ends of molecules resulted from the alcoholysis reaction of collected waste polyethylene terephthalate by an aliphatic glycol having an ether bond, (b) a dibasic acid containing an aromatic dibasic acid as a principal component, and (c) a glycidyl meth)acrylate (abstract).

With regard to the limitations of claims 2 and 5, Ueno discloses in Synthesis Example 1 that the reaction continued at the same temperature for 6.5 hours, and 0.514 g of toluhydroquinone was added when a 70% **styrene** (*which is readable as*

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component (c) in instant claim 1) solution exhibited an acid value of 23.5 and a Gardner viscosity of U-V', and after cooling to 130°C, 379.7 g (2.67 mol) of **glycidyl methacrylate** (*which is readable as component (a) in instant claim 1*) was charged in an atmosphere of nitrogen/air=1:1. The reaction continued at 130°C for two hours, and after cooling to 90°C when the solid acid value of a 75% **methyl methacrylate** solution reached 2.0, 1568.4 g of **MMA** (*which is readable as component (b) in instant claim 1*), 0.087 g of 5% copper naphthenate and 0.291 g of t-butyl catechol were added to obtain a liquid resin having a non-volatile content of 75% (page 5, [0055]).

Ueno does not disclose that the viscosity modifier consists essentially of the units (a), (b) and (c).

Ding discloses the polymeric composition consisting essentially of the (a) 10-30% by weight of alkyl (meth) acrylate containing an epoxy group; (b) 40-70% by weight of another alkyl (meth) acrylate and (c) 10-40% by weight of another vinyl monomer copolymerizable therewith. This composition can be used as a viscosity modifier for acrylic and other resins (abstract). Weight average molecular weight of the viscosity modifier is 1,000-10,000, which is within the claimed range (page 1, claim 1).

Both references are analogous art because they are from the same field of endeavor concerning new polymerizable composition used as a viscosity modifier. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the viscosity modifier containing units of (a) (b) and (c) and having weight average molecular weight of 1,000 to 10,000 as taught by Ding in Ueno's thermoplastic polyester resin composition because the usage of such

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viscosity modifier is simple for the preparation, product cost is low, properties of the final resin are stable and raw materials are easily available (CN'302, abstract, page 1, 3rd paragraph), and thus to arrive at the subject matter of instant claims 2 and 5.

With regard to the limitations of claims 3 and 4, Ueno discloses that the polymerizable polyester resin composition is used in applications such as patty, sealing material, coating material, waterproof material, **molding material**, coating material, patty, sealing material, lining material, **waterproof material**, road marking material, and paving material (page 4, [0049]-[0052]).

With regard to the limitations of claims 6 and 7, Ueno discloses that used collected waste PET also includes, as a raw material, those which **contain terephthalic acid and ethylene glycol** as a principal component and also contains other saturated dibasic acids such as isophthalic acid, cyclohexane dimethanol, or other glycols such as diethylene glycol as other component. The aliphatic glycol having an ether bond for alcoholysis reaction of PET preferably includes diethylene glycol, triethylene glycol, and dipropylene glycol. These glycols can be used as a principal component (50% by weight or more of the whole glycol component) and other glycols, for example, ethylene glycol and propylene glycol (page 1, [0013]-[0014]).

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Bernshteyn whose telephone number is 571-272-2411. The examiner can normally be reached on M-F 8-5:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael Bernshteyn
Patent Examiner
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03/16/2007


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